IN THE CLAIMS

1. (Withdrawn) A bioactive sol-gel solution, comprising:
a biocompatible polymer,

a gelable inorganic base material, and

at least one calcium and phosphorous molecular species.

2. (Withdrawn) The solution of claim 1, wherein said base material comprises at least one alkoxysilane.

3. (Withdrawn) The solution of claim 1, wherein said base material comprises at least one non-alkoxysilane alkoxide selected from the group consisting of alurninates, titanates and borates.

4. (Withdrawn) The solution of claim 1, wherein said polymer comprises at least one selected from the group consisting of polyvinylpyrrolidone (PW), polyethyleneimine (PEI), polycarboxylmethylcellulose (PCMC), polyethylenglycol (PEG), polypropylene oxide (PPO), polyvinylalcohol (PVA), polyacrylic acid (PAA), polymethylacrylic acid (PMAA) polystyrene sulfonic acid (PSSA), and gelatin.

5. (Withdrawn) The solution of claim 1, wherein a pH of said solution is from 1 to 7.

6. (Withdrawn) The solution of claim 5, wherein said pH is from 1.2 to 2.

7. (Withdrawn) The solution of claim 1, wherein a viscosity of said solution at 25 C is from 1.5 Pa sec. to 6.0 Pa sec.

8. (Withdrawn) The solution of claim 1, wherein said solution is stable for at least 30 days at 25 C.

9. (Withdrawn) The solution of claim 1, further comprising at least one biologically active agent, wherein said solution forms an encapsulation layer around said biological agent.

10. (Withdrawn) The solution of claim 9, wherein said biological agent is a drug or pharmaceutical agent.

11. (Currently Amended) A bioactive glass composite, comprising;
a biocompatible polymer,
a bioactive glass including at least one calcium, and at least one phosphorous molecular species; the biocompatible polymer being reacted with the bioactive glass, wherein said calcium and said phosphorous molecular species are not crystalline.

12. (Original) The composite of claim 11, wherein said composite is in the form of microfibers, said fibers having a diameter less than 100 μm.

13. (Original) The composite of claim 11, wherein said composite is in the form of particles, microspheres, or coatings.

14. (Original) The composite of claim 12, wherein cells when seeded proliferate on said fibers.

15. (Previously presented) The composite of claim 14, wherein said cells are stem cells.

16. (Previously presented) The composite of claim 15, wherein said stem cells proliferate in the absence of any growth hormones.

17. (Previously presented) The composite of claim 12, wherein said fibers are substantially equally spaced to form an organized scaffold.

18. (Previously presented) The composite of claim 17, wherein said equal spacing is less

than 50 μm.

19. (Previously presented) The composite of claim 17, wherein said equal spacing is less than 25 μm.

20. (Previously presented) The composite of claim 11, wherein a porosity of said composition is at least 50%.

21. (Previously presented) The composite of claim 11, further comprising at least one biologically active agent.

*22.* (Previously presented) The composite of claim 21, wherein said composition forms an encapsulation layer around said biological agent.

23. (Previously presented) The composite of claim 21, wherein said biologically active agent is adsorbed onto the surface of said composition or chemically attached to a surface of said composition.

24. (Previously presented) The composite of claim 22, wherein said encapsulated biologically active agent is in the form of at least one selected from the group consisting of microcapsules, microspheres, microparticles, microfibers, sol gel matrices, and reinforcing fibers.

25. (Previously presented) The composite of claim 22, wherein said encapsulation layer is continuous, wherein a sustained release profile of said biologically active agent is provided.

26. (Previously presented) The composite of claim 11, further comprising at least one protein.

27. (Previously presented) The composite of claim 26, wherein said protein comprises at least one selected from the group consisting of collagen (including cross-linked collagen), fibronectin, laminin, elastin (including cross-linked elastin), osteonectin, bone sialoproteins (Bsp), alpha-2HS-glycoproteins, bone Gla-protein *(*Bgp*),* matrix Gla-protein, bone phosphoglycoprotein, bone phosphoprotein, bone proteoglycan, protolipids, bone morphogenetic protein, cartilage induction factor, platelet derived growth factor and skeletal growth factor.

28. (Previously presented) The composite of claim 11, wherein said composition is disposed on a surface of or integrated within a medical device adapted for implantation into a patient.

29. (Previously presented) The composite of claim 28, wherein said medical device is a prosthetic device.

30. (Currently Amended) **A** method of repairing hard or soft tissue defects, comprising the steps of:

applying a fiber composition comprising a biocompatible polymer, a bioactive glass including at least one calcium and at least one phosphorous molecular species to a defect site on a patient, wherein said calcium and said phosphorous molecular species are not crystalline.

31. (Original) The method of claim 30, wherein said composition is in the form of microfibers, said fibers having a diameter less than 100 μm.

32. (Original) The method of claim 30, wherein said fibers are substantially equally spaced to form an organized scaffold.

33. (Original) The method of claim 30, wherein said equal spacing is less than 50 μm.

34. (Original) The method of claim 30, where said composition is in the form of

particles.

35. (Original) The method of claim 30, wherein cells proliferate on or around said composition in the absence of any growth hormones.

36. (Currently Amended) **A** method of forming a bioactive glass, comprising the steps of:

mixing a biocompatible polymer, a gelable inorganic base material, and at least one calcium and phosphorous molecular species, and

hydrolizing said mixture, wherein said calcium and said phosphorous molecular species are not crystalline.

37. (Original) The method of claim 36, further comprising the step of forming a plurality of fibers, wherein said forming process is at a temperature of no more than 200 C.

38. (Original) The method of claim 37, wherein said forming step comprises air-spraying or extruding.

39. (Previously presented) The composite of claim 11, wherein said glass is a continuous phase inorganic network.

40. (Canceled) ~~The composite of claim 11, wherein said calcium and said phosphorous molecular species are not crystalline by XRD analysis.~~

41. (Previously presented) The composite of claim 11, wherein said bioactive glass comprises a gelled inorganic material containing at least one calcium and at least one phosphorous molecular species.

42. (Previously presented) The composite of claim 41, wherein said gelled inorganic material comprises at least one gelled alkoxysilane.

43. (Previously presented) The composite of claim 41, wherein said gelled inorganic material comprises at least one gelled non-alkoxysilane alkoxide selected from the group consisting of alurninates, titanates, and borates.

44. (Previously presented) The composite of claim 11, wherein said biocompatible polymer comprises at least one selected from the group consisting of polyvinylpyrrolidone (PVP), polyethyleneimine (PEI), polycarboxylmethylcellulose (PCMC), polyethylenglycol (PEG), polypropylene oxide (PPO), polyvinylalcohol (PVA), polyacrylic acid (PAA), polymethylacrylic acid (PMAA), polystyrene sulfonic acid (PSSA), and gelatin.